1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>Benzoic acid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Number</td>
<td>242381</td>
</tr>
<tr>
<td>Brand</td>
<td>Sigma-Aldrich</td>
</tr>
<tr>
<td>Company</td>
<td>Sigma-Aldrich</td>
</tr>
<tr>
<td></td>
<td>3050 Spruce Street</td>
</tr>
<tr>
<td></td>
<td>SAINT LOUIS MO  63103</td>
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<tr>
<td></td>
<td>USA</td>
</tr>
<tr>
<td>Telephone</td>
<td>+18003255832</td>
</tr>
<tr>
<td>Fax</td>
<td>+18003255052</td>
</tr>
<tr>
<td>Emergency Phone #</td>
<td>(314) 776-6555</td>
</tr>
</tbody>
</table>

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Harmful by ingestion., Irritant, Harmful by inhalation.

Harmful by ingestion., Irritant

GHS Label elements, including precautionary statements

Pictogram

Signal word       Warning

Hazard statement(s)
- H302  Harmful if swallowed.
- H316  Causes mild skin irritation.
- H319  Causes serious eye irritation.

Precautionary statement(s)
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification
- Health hazard: 2
- Flammability: 1
- Physical hazards: 0

NFPA Rating
- Health hazard: 2
- Fire: 1
- Reactivity Hazard: 0

Potential Health Effects

Inhalation       Harmful if inhaled. Causes respiratory tract irritation.
Skin             Harmful if absorbed through skin. Causes skin irritation.
Eyes             Causes eye irritation.
Ingestion        Harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS
Formula: \( \text{C}_7\text{H}_6\text{O}_2 \)
Molecular Weight: 122.12 g/mol

<table>
<thead>
<tr>
<th>CAS-No.</th>
<th>EC-No.</th>
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<th>Concentration</th>
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<tr>
<td>65-85-0</td>
<td>200-618-2</td>
<td>-</td>
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4. FIRST AID MEASURES

**General advice**
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**
Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters**
Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**
Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

**Environmental precautions**
Do not let product enter drains.

**Methods and materials for containment and cleaning up**
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

**Precautions for safe handling**
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

**Conditions for safe storage**
Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

**Respiratory protection**
For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form crystalline
Colour white

Safety data
pH no data available
Melting point 121 - 125 °C (250 - 257 °F) - lit.
Boiling point 249 °C (480 °F) - lit.
Flash point 121 °C (250 °F) - closed cup
Ignition temperature 572 °C (1,062 °F)
Lower explosion limit no data available
Upper explosion limit no data available
Vapour pressure 13 hPa (10 mmHg) at 132 °C (270 °F)
Density 1.320 g/cm3
Water solubility no data available
Relative vapour density 4.22 - (Air = 1.0)

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Conditions to avoid
no data available

Materials to avoid
Strong oxidizing agents, Strong bases, Strong reducing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity
LD50 Oral - rat - 1,700 mg/kg
LC50 Inhalation - rat - 4 h - > 12.2 mg/l
LD50 Dermal - rabbit - > 10,000 mg/kg
Skin corrosion/irritation  
Skin - rabbit - Mild skin irritation - 24 h

Serious eye damage/eye irritation  
Eyes - rabbit - Mild eye irritation
Eyes - rabbit - Severe eye irritation

Respiratory or skin sensitization  
no data available

Germ cell mutagenicity  
no data available

Carcinogenicity  
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity  
no data available

Specific target organ toxicity - single exposure (GHS)  
no data available

Specific target organ toxicity - repeated exposure (GHS)  
no data available

Aspiration hazard  
no data available

Potential health effects  
Inhalation Harmful if inhaled. Causes respiratory tract irritation.
Ingestion Harmful if swallowed.
Skin Harmful if absorbed through skin. Causes skin irritation.
Eyes Causes eye irritation.

Signs and Symptoms of Exposure  
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information  
RTECS: DG0875000

12. ECOLOGICAL INFORMATION

Toxicity  
Toxicity to fish LC50 - Gambusia affinis (Mosquito fish) - 180 mg/l - 96 h
Toxicity to algae Growth inhibition EC50 - Scenedesmus quadricauda (Green algae) - > 10 mg/l - 14 d

Persistence and degradability  
no data available

Bioaccumulative potential  
Bioaccumulation Leuciscus idus (Golden orfe) - 3 d
Bioconcentration factor (BCF): 5.3

Mobility in soil  
no data available

PBT and vPvB assessment
13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN-Number: 3077  Class: 9  Packing group: III
Proper shipping name: Environmentally hazardous substances, solid, n.o.s. (Benzoic acid)
Reportable Quantity (RQ): 5000 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
Not dangerous goods

IATA
Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards
Harmful by ingestion., Irritant, Harmful by inhalation.Harmful by ingestion., Irritant

DSL Status
All components of this product are on the Canadian DSL list.

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard

Massachusetts Right To Know Components

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Pennsylvania Right To Know Components

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New Jersey Right To Know Components

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California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Further information